

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT EXAMINING OPERATION

First Named Inventor: Rodney Martin SAMBROOK

Application Serial No: 10/598,129

Group Art Unit: 1797

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Examiner: Lucas A. Sterling

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For: CHEMICAL REACTION

REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Final Rejection dated November 17, 2008, Applicant respectfully requests reconsideration of the above-identified application. Claims 1-7 are pending with Claim 1 independent.

Formal Matters

Claim 1 stands rejected under 35 U.S.C. §112, first paragraph, written description requirement. This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner asserts that the claimed feature of “the pores being coalesced such that the walls are formed between adjacent pores” is not found expressly in the originally-filed disclosure. The Applicant, however, submits that it is not necessary for the limitation to be found expressly in the originally filed disclosure, rather that it should be possible for a person having ordinary skill in the art to make and use the invention so limited from the information in that disclosure. Toward that end, the Applicant draws the Examiner’s attention in particular to paragraphs [0015] to [0017] of the description as was published. This passage describes the

method for manufacturing the filter body for the catalytic reactor for use in the method of the invention.

Further, as is made clear by paragraphs [0015] to [0018], the body is made by forming a dispersion of particles in a liquid carrier and a binder, introducing gas into the dispersion and removing the liquid carrier to provide a solid article having pores derived from the bubbles. These pores are interconnected, as is noted, for example, in paragraph [0014]. The skilled person understands when presented with the method of manufacture, that the pores are interconnected because the pores formed from the bubbles, which act as their precursors, have partially coalesced. Accordingly, as the skilled person appreciates, the “walls” as described in Claim 1 and paragraph [0014] represent regions in which the edges of adjacent “bubbles” meet contiguously, while the windows in these walls occur where the partial coalescence has taken place. Such a structure can clearly be seen in Figure 1 of the present application.

The Applicant, therefore, submits that the limitation “the pores being coalesced such that the walls were formed between adjacent pores” is fully supported by the application as filed. Withdrawal of the rejection of Claim 1 under 35 U.S.C. §112, is respectfully requested.

Prior Art Rejections

Claims 1-4 and 6 stand rejected under 35 U.S.C. §102(a) over Ajisaka, et al. (WIPO Publication No. WO 03/071106). This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner asserts that Ajisaka discloses the features of the rejected claims. In particular, the Examiner asserts that Ajisaka teaches the claimed pores being defined by struts and walls, with walls being formed between adjacent pores (Figs. 1 and 2) and at least some of

which windows are formed to allow fluid communication between adjacent pores (Fig. 3) and communications channels. However, the Applicant respectfully submits that Ajisaka does not describe a network of pores which are coalesced such that walls are formed between adjacent pores and that windows are formed in those walls, as recited in Claim 1. This is best demonstrated by reference to the method of manufacture of the porous body of Ajisaka.

Referring to paragraphs [0050] and [0051] of Ajisaka, the Applicant notes that Ajisaka describes a method comprising mixing a ceramic slurry with thermoplastic beads and pulp waster liquor and then dried to form a green body. The pores are then formed by a second drying stage at a temperature sufficiently elevated to burn out the thermoplastic beads to form the pores.

The Applicant submits that the skilled person understands that it is not possible to form pores which are coalesced to form walls between adjacent pores by this method of Ajisaka, as the solid beads can not and do not behave in the same way as a bubble, the bubble being the precursor to the pores in the porous body as used in the method of Claim 1. As is understood by the skilled person, when bubbles of liquid are brought into intimate contact, surface tension effects cause the intersection of the bubbles to be minimized. The smallest common surface between touching bubbles is flat. Of course, this is not the same for solid beads which can only contact adjacent beads tangentially. The porous body as used by the method of Claim 1 is, therefore, materially different and would be understood by the skilled person as not described by Ajisaka.

Moreover, the Applicant respectfully submits that the porous body described in Claim 1 of the present invention provides a high degree of filtration and a high trapping capacity (see paragraphs [0013], a result of the range of pore sizes provided by the unique structure. In

contrast, the porous body described by Ajisaka is limited in its range of pore sizes by the diameters of the plastic beads used to form them.

It is also of note that the thermal degradation of the pore-forming plastic beads generates combustion product. These products have to travel to the exterior of the body and in so doing, may force open paths as they escape the porous body. Such a mechanism may be likely to decrease the filtration efficiency of that porous body. Having no degrading pore forming beads used in its manufacture, the porous body, as required by the method of the present invention does not suffer this problem and thus retains an excellent filtration efficiency.

Therefore, Ajisaka does not disclose the pores being coalesced such that the walls are formed between adjacent pores, and windows formed in at least some of the walls, as recited in Claim 1. Claims 2-4 and 6 depend upon, and incorporate all the features of Claim 1, and are also believed to be novel and nonobvious over Ajisaka. Withdrawal of the rejection of Claims 1-4 and 6 under 35 U.S.C. §102(a) is respectfully requested.

35 U.S.C. §102(a) or §103(a)

Claim 5 stands rejected under 35 U.S.C. §102(a) or 103(a) over Ajisaka. This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner asserts that Ajisaka teaches the bulk relative density of which is between 0.1 and 0.3. However, as discussed above, Ajisaka does not disclose pores defined by struts and walls, the pores being coalesced such that the walls are formed between adjacent pores, and at least some of which walls are formed windows to allow fluid communication between adjacent pores, as recited in Claim 1. Applicant further submits that Ajisaka also does not teach or suggest this feature of Claim 1, from which Claim 5 depends. Therefore, Applicant respectfully

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submits that Ajisaka or a combination of Ajisaka and the knowledge of a skilled artisan would not have resulted in the above-discussed features of Claim 1, from which Claim 5 depends. Withdrawal of the rejection of Claim 5 under 35 U.S.C. §102 or 103 is respectfully requested.

Ajisaka, Wade and Bly

Claim 7 stands rejected under 35 U.S.C. §103(a) over Ajisaka in view of Wade (U.S. Patent No. 4,641,496) and Bly, et al. (U.S. Patent No. 4,276,066). This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner admits that Ajisaka does not teach that the porous ceramic bodies are held in a rotating wheel or slide configuration, and asserts that it would have been obvious to combine the teachings of Bly and Wade of a moving member for blocking part of the ceramic filter element for regeneration purposes to reverse the operation of the device and rotate the filter member in front of a stationary blocking shield. However, neither Wade nor Bly teach or suggest pores defined by struts and walls, the pores being coalesced such that the walls are formed between adjacent pores, and at least some of which walls are formed windows to allow fluid communication between adjacent pores, as recited in Claim 1, and missing in Ajisaka. Therefore, a combination of Ajisaka, Wade and Bly would not have resulted in the above-discussed features of Claim 1, from which Claim 7 depends. Accordingly, the references do not render Claim 7 obvious. Withdrawal of the rejection of Claim 7 under 35 U.S.C. §103(a) is respectfully requested.

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CONCLUSION


For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,
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February 16, 2009

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